

REMARKS

Re-examination and reconsideration of the subject matter identified in caption, pursuant and consistent with 37 C.F.R. § 1.116 and in light of the remarks which follow are respectfully requested.

As correctly noted in the Office Action Summary, claims 1-20 are currently pending in the application and are under consideration. At the outset, Applicants note with appreciation the withdrawal of the non-statutory obviousness-type double patenting rejection and the §102(e) rejection over Koenigsmann.

Turning to the Official Action, claims 1-11 and 18 stand rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Ogata et al. (Japanese Patent Document No. 02043362 A). This rejection is traversed for the following reasons.

The present invention relates to a method of bonding a sputter target to a backing plate, and more specifically, the use of a backing plate having spaced-apart ridges on the bonding surface of the backing plate.

In accordance with one aspect of the invention, and as set forth in independent claim 1, a method for forming a solder bonded sputter target/backing plate assembly is provided. The method includes (a) forming a backing plate with a bonding surface having a plurality of spaced-apart ridges that are disposed on and within the periphery of the bonding surface of the backing plate; (b) forming a sputter target having a sputtering surface and substantially flat bonding surface; (c) applying a solder material to the interface spaces defined by superimposing the sputter target within the periphery of and onto the plurality of ridges on the backing plate; and (d) allowing the solder material to solidify and bond the sputter target to the backing plate so that the plurality of ridges provide an effective uniform thickness solder bonded interface.

Ogata et al. pertains to a method of joining a sputter target and a backing plate by a brazing material. Ogata et al., however, does not disclose each and every feature of the claimed invention. For example, Ogata et al. does not disclose forming a backing plate with a bonding surface having a plurality of

spaced-apart ridges that are disposed on and within the periphery of the bonding surface of the backing plate as set forth in independent claims 1 and 18. In this regard, the ridges in the present invention act as spacers to ensure a substantially uniform solder thickness. By comparison, Ogata et al. simply provides grooves or slots in the bonding surface of the backing plate where the brazing material is introduced presumably in order to reduce warpage and deformation of the target assembly. See translated Abstract.

Clearly, Ogata et al. does not disclose raised protrusions in the form of space-apart ridges on the bonding surface of the backing plate to accommodate the solder and provide a uniform thickness interface. Moreover, it does not disclose the solder bonding method of the present invention, but rather a brazing bonding. Neither the structure nor the process of making the structure are not the same, nor suggested by Ogata et al. Accordingly, withdrawal of this rejection is in order and it is respectfully requested.

Claims 12-17, 19 and 20 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Ogata et al. in view of Ivanov (U.S. Patent Application Publication No. 2005/0284746). This rejection is traversed for the following reasons.

Ogata et al. has been discussed in detail above. Ivanov relates to a sputter target/backing plate joining technique and assemblies made thereby. See paragraph 3. Ivanov has been relied on for the disclosure of a solder comprising Sn-Ag-Cu to form a bond between the backing plate and the sputter target. Official Action at page 6. However, Ivanov does not cure the above-discussed deficiencies in Ogata et al. Specifically, Ogata et al. does not disclose or suggest forming a backing plate with a bonding surface having a plurality of spaced-apart ridges that are disposed on and within the periphery of the bonding surface of the backing plate. Thus, for the foregoing reason withdrawal of this rejection is in order.

Entry of the foregoing, and prompt favorable action of the subject application on the merits are respectfully requested.

If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned at his/her earliest convenience.

Respectfully submitted,

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